Message

From: LEE, LILY [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D6085A744F9347E6836C54C0E85B97B2-LLEE06]
Sent: 5/20/2019 3:50:03 PM
To: Roddy, Elizabeth A CTR USN (USA) [elizabeth.roddy.ctr@navy.mil]; Bercik, Lisa M. [lisa.bercik@aptim.com]; Stoick, Paul T CIV USN (USA) [paul.stoick@navy.mil]
Subject: RTCs - FW: Previous EPA comments on multiple radionuclides - more info attached
Attachments: Revised risks at RGs using EPA Calculators - Soil and Structures - 13Dec18.pdf; 2019-4-25 5YR PRG Calculator - Soil & Structures - EPA Comments.pdf

Dear Paul,

I am following up on the voicemails I left you last week about RTC #5 on pp. 3-4 of the pdf.

I realize that the 5YR work has been proceeding in parallel with the Parcel G Work Plan, so you may not realize that the Navy gave us the attached draft PRG runs in Dec 2018. Please note the Ra-226 and Th-232 values for soil. This may give you context for the reason for our previous comments below. In addition, please see attached EPA comments, especially p. 5 of the pdf re import fill. We can talk by phone more about these before we send written responses to your 5/13/19 RTCs.

From: LEE, LILY
Sent: Thursday, May 16, 2019 10:15 AM
To: Stoick, Paul T CIV USN (USA) <paul.stoick@navy.mil>; Bercik, Lisa M. <lisa.bercik@aptim.com>
Cc: David Kappelman (Kappelman.David@epa.gov) <Kappelman.David@epa.gov>; juanita.bacey@dtsc.ca.gov; Reese, Shane@CDPH <shane.reese@cdph.ca.gov>
Subject: Previous EPA comments on multiple radionuclides

EPA's March 26, 2018 comments on the draft Work Plan, Radiological Survey and Sampling

-Cover Letter, Page 1 stated "As we wrote in December 2016, "EPA recommend using a health-risk based approach to prioritize areas of concern based on factors that should include, but not limited to, historical records of activities, and combination of highest risk radionuclides."

EPA's September 21, 2018 comments on the draft Fourth Five-Year Review

-General Comment 2b (Section 6.2.2, Changes in Toxicity and Other Contaminant Characteristics) stated "For EPA to sign a Finding of Suitability to Transfer (FOST) for any parcel, the record must also show that the remedy is consistent with the NCP. Please note that if this review shows that the estimate risk is close to 1 X 10^-4, EPA recommends not setting a Remedial Goal too close to this upper bound 10^-4. First, this increases the potential for the combined risk from multiple contaminants of concern found at a single location to exceed the National Contingency Plan (NCP) risk range of 10^-6 to 10^-4. Adding risks from multiple radionuclides of concern found at the same location, even if individual radionuclide concentrations do not exceed the individual thresholds of concern, is consistent with the Unity Rule in the MultiAgency Radiation Survey and Site Investigation Manual (MARSSIM).5"
Footnote 5 "unity rule (mixture rule): A rule applied when more than one radionuclide is present at a concentration that is distinguishable from background and where a single concentration comparison does not apply. In this case, the mixture of radionuclides is compared against default concentrations by applying the unity rule. This is accomplished by determining: 1) the ratio between the concentration of each radionuclide in the mixture, and 2) the concentration for that radionuclide in an appropriate listing of default values. The sum

of the ratios for all radionuclides in the mixture should not exceed 1." Source:
http://www.marssim.com/MARSSIM_Definitions.htm
6 https://epa-bprg.ornl.gov/bprg_users_guide.html

EPA's August 14, 2018 comments on the draft Parcel G Removal Site Evaluation Work Plan:

-Specific Comment 6 (Section 3.3 and 4.3, Remediation Goals for soil and buildings, respectively) stated "Please revise the Work Plan to explain how compliance with RGs will be evaluated when more than one ROC is identified. Cleanup goals should include an analysis of the sum of
fractions and the unity rule to ensure total risk to the Reasonably Maximally Exposed (RME) individual posed by multiple ROCs in soil or buildings does not exceed the CERCLA risk range of 1 X 10-4 to 1 X 10-6. Please note that "Consistent with existing Agency guidance for the CERCLA remedial program, . . . EPA generally uses 1 x 10-4 in making risk management decisions."8"
Footnote 8-OSWER Directive 9200.4-40, EPA 540-R-012-13, May 2014, Q34, p. 27.

-Specific Comment 15c (Section 4, Building Investigation Design and Implementation) stated "All MARSSIM Final Status Survey (FSS) design parameters, including the identification of the survey unit classifications and sizes, and number of samples
required to be collected for the WRS test, and all the associated calculation inputs, including the Lower Bound of the Gray Region, standard deviation of previously collected data, relative shift, confidence level selected, etc. This information should
also include the identification of investigation levels for all radiological survey types, elevated measurement comparison calculations, or any other inputs and decision rules associated with the FSS design. In addition, when multiple
radionuclides may be present, the Work Plan should include the identification of the survey release limit and investigation level based on the sum of fractions and unity rule for all ROCs."

Lily Lee
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